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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,751	02/18/2004	Jin-Ho Park	1349.1292	2039

21171 7590 09/15/2006

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EXAMINER
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UHLENHAKE, JASON S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/779,751

Applicant(s)

PARK ET AL.

Examiner

Jason Uhlenhake

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) 16 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 7, 9 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al (U.S. Pub. 2002/0015070) in view of Okamoto (U.S. Pat. 6,474,774).

#### ***Taylor et al discloses:***

- ***regarding claim 1 and claim 11***, slider (pallet) to slide (transitional movement) with respect to the head caps, and having wipers (150) to wipe the printer heads and spittoons (48) to remove ink from the printer heads; slider movement unit (100) to slide the slider (Abstract; Column 4, Lines 39 – 53)
- a unit disposed between the head caps and the slider to move the head caps in association with the sliding of the slider with respect to the head caps (Figures 1 - 3)
- ***regarding claim 2***, links each hinge coupled to the revolving member and the slider, to activate the revolving member while interlocking with the slider (Figure 2; Column 9, Lines 50 - 62)
- ***regarding claim 4***, a body; a driving hinge part having a first hinge hole on one end portion thereof to be engaged with the first hinge shaft of the slider; and a

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moving hinge part having a second hinge hole disposed lower than the first hinge hole on the other end portion thereof to be engaged with the second hinge shaft of the revolving member (Figure 2; Column 9, Lines 50 - 62)

- **regarding claim 7**, a spring (90) to restore the revolving member to the capping position, one end of the spring being fixed to the revolving member, and the other end of the spring (90) being fixed to a rear side spaced in a certain interval from the revolving member (Figure 2, Column 9, Lines 50 – 67; Column 10, Lines 1 – 9)

- **regarding claim 9**, a rack provided on an upper surface of the slider along a sliding direction; a pinion disposed over the slider and meshed with the rack; and a motor to rotate the pinion (Figures 1 – 3; Column 4, Lines 39 – 53; Column 5, Lines 25 - 34)

- **regarding claim 10**, the slider slides in a perpendicular direction with respect to a printing direction of the printer heads (Figure 1, Column 4, Lines 54 - 67)

- **further regarding claim 11**, an entrance provided on a surface of the casing to face the printer heads (48 of Figure 1)

- **regarding claim 12**, links to connect the revolving member and the slider (Column 9, Lines 50 - 62)

***Taylor does not disclose expressly the following:***

- **regarding claim 1, and claim 11**, head caps to revolve between a capping position and an uncapping position of printer heads; revolution unit

- **regarding claim 2**, shaft disposed under the printer heads in a traverse direction with respect to a sliding direction of the slider

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- revolving member to revolve on the shaft and coupled with the head caps
- **regarding claim 12**, revolving member to couple to the head caps; a shaft to couple to the revolving member to move upward and downward in the casing, and mounted in front of the entrance of the casing
- **regarding claim 13**, revolving member is sectioned into a plate on which the head caps are mounted, and a connection portion provided on the plate
- **regarding claim 14**, the connecting portion comprises a pair of ribs to protrude forward from an end of the plate and disposed opposite to each other
- **regarding claim 15**, the ribs each comprises a shaft opening, so that the revolving member is coupled with the shaft of the revolution unit

**Okamoto discloses:**

- **regarding claim 1, and claim 11**, head caps to revolve between a capping position and an uncapping position of printer heads; revolution unit (Figures 4 – 5; Column 10, Lines 36 – 41), for the purpose of making the dimension of the apparatus main body significantly smaller.
- **regarding claim 2**, shaft disposed under the printer heads in a traverse direction with respect to a sliding direction of the slider; revolving member to revolve on the shaft and coupled with the head caps (Figures 1 – 2, 4; Column 7, Lines 60 – 66) (Figures 1, 4 – 5; Column 2, Lines 41 – 45; Column 10, Lines 36 – 41), for the purpose of making the dimension of the apparatus main body significantly smaller.
- **regarding claim 12**, revolving member to couple to the head caps; a shaft to couple to the revolving member to move upward and downward in the casing, and

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mounted in front of the entrance of the casing (Figures 1, 4 – 5; Column 2, Lines 41 – 45; Column 10, Lines 36 – 41), for the purpose of making the dimension of the apparatus main body significantly smaller.

- **regarding claim 13**, revolving member is sectioned into a plate (35) on which the head caps (11) are mounted, and a connection portion provided on the plate (Figure 5) , for the purpose of making the dimension of the apparatus main body significantly smaller.

- **regarding claim 14**, the connecting portion comprises a pair of ribs to protrude forward from an end of the plate and disposed opposite to each other (Figures 1 – 2, 4 – 5; Column 7, Lines 60 – 67; Column 8, Lines 1 – 16), for the purpose of optimizing the movements of the recording head and recovery means.

- **regarding claim 15**, the ribs each comprises a shaft opening, so that the revolving member is coupled with the shaft of the revolution unit (Figures 1 – 2, 4 – 5; Column 7, Lines 60 – 67; Column 8, Lines 1 – 16) , for the purpose of optimizing the movements of the recording head and recovery means.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of head caps to revolve between a capping position and an uncapping position of printer heads; revolution unit; revolving member to couple to the head caps; a shaft to couple to the revolving member to move upward and downward in the casing, and mounted in front of the entrance of the casing; revolving member is sectioned into a plate on which the head caps are mounted, and a connection portion provided on the plate; the connecting portion comprises a pair of ribs

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to protrude forward from an end of the plate and disposed opposite to each other; the ribs each comprises a shaft opening, so that the revolving member is coupled with the shaft of the revolution unit as taught by Okamoto into the device of Taylor et al, for the purpose of making the dimension of the apparatus main body significantly smaller and to optimize the movements of the recording head and recovery means.

Claims 3, 5, 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al (U.S. Pub. 2002/0015070) as modified by Okamoto (U.S. Pat. 6,474,774) as applied to claim 1 above, and further in view of Shimizu et al (U.S. Pub. 2002/0105560)

***Taylor et al as modified by Okamoto discloses all the claimed limitations above except for the following:***

- ***regarding claims 3, 17***, a first hinge shaft to protrude on a side of the slider; and a second hinge shaft to protrude on a side of the revolving member, wherein the second hinge shaft is located a position lower than the first hinge shaft when the slider and revolving member are disposed in parallel to each other
- ***regarding claim 5***, a guide to guide the revolving of the body and disposed between the slider and the revolving member
- ***regarding claim 18***, a body; a driving hinge part having a first hinge hole on one end portion thereof to be engaged with the first hinge shaft of the slider; and a moving hinge part having a second hinge hole disposed lower than the first hinge hole

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on the other end portion thereof to be engaged with the second hinge shaft of the revolving member

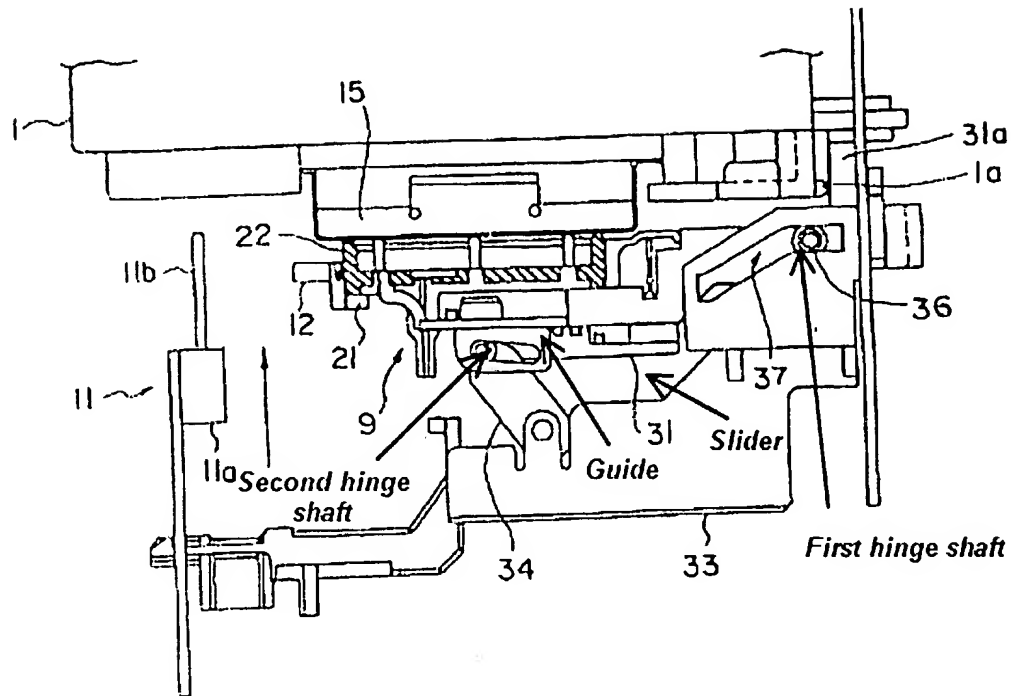
- **regarding claim 19**, a step part provided between the moving hinge part and the body, and inclined downward with respect to the moving hinge part

- **regarding claim 20**, a guide to guide a revolving of the body and disposed between the slider and the revolving member wherein a portion of the guide is bent

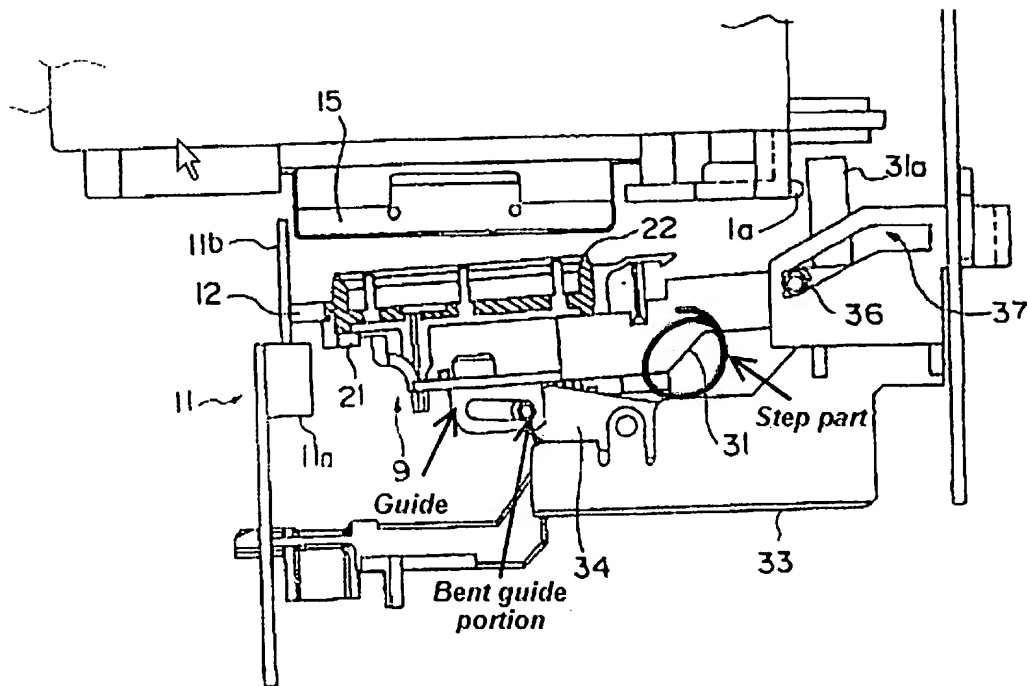
***Shimizu et al discloses:***

- **regarding claim 3, 17**, a first hinge shaft (36, 37) to protrude on a side of the slider (31) (Paragraph 0063); and a second hinge shaft to protrude on a side of the revolving member (22), wherein the second hinge shaft is located a position lower than the first hinge shaft when the slider and revolving member are disposed in parallel to each other (Figures 7-8), for the purpose of slidably coming in contact with the nozzle forming surface of the recording head to remove waste ink.

- **regarding claim 5**, a guide to guide the revolving of the body and disposed between the slider and the revolving member (Figures 7-8), for the purpose of slidably coming in contact with the nozzle forming surface of the recording head to remove waste ink.



- **regarding claim 18**, a body; a driving hinge part having a first hinge hole (37) on one end portion thereof to be engaged with the first hinge shaft (36) of the slider (31); and a moving hinge part having a second hinge hole disposed lower than the first hinge hole on the other end portion thereof to be engaged with the second hinge shaft of the revolving member (22) (Figures 7-8)
- **regarding claim 19**, a step part provided between the moving hinge part and the body, and inclined downward with respect to the moving hinge part (Figure 8)
- **regarding claim 20**, a guide to guide a revolving of the body and disposed between the slider and the revolving member wherein a portion of the guide is bent (Figure 8)



At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Shimizu into the device of Taylor as modified by Okamoto, for the purpose of slidably coming in contact with the nozzle forming surface of the recording head to remove waste ink.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al (U.S. Pub. 2002/0015070) as modified by Okamoto (U.S. Pat. 6,474,774) as applied to claim 1 above, and further in view of Takahashi et al (U.S. Pat. 6,203,136).

***Taylor et al as modified by Okamoto disclose:***

- ***regarding claim 8***, a spring to restore the revolving member to the capping position, one end of the spring being fixed to the revolving member, and the

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other end of the spring being fixed to a rear side spaced in a certain interval from the revolving member (Taylor: Figure 2, Column 9, Lines 50 – 67; Column 10, Lines 1 – 9)

***Taylor et al as modified by Okamoto does not disclose expressly:***

- ***regarding claim 6***, the body revolves the revolving member upward and downward on the shaft while revolving on the first hinge shaft of the slider, and the second hinge hole of the moving hinge part is a long opening lengthened in a direction of the body

***Takahashi et al discloses:***

- ***regarding claim 6***, the body revolves the revolving member upward and downward on the shaft while revolving on the first hinge shaft of the slider, and the second hinge hole of the moving hinge part is a long opening lengthened in a direction of the body (Figures 8b, 9b; Column 4, Lines 20 – 36), for the purpose of making the dimension of the apparatus main body significantly smaller.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of the body revolves the revolving member upward and downward on the shaft while revolving on the first hinge shaft of the slider, and the second hinge hole of the moving hinge part is a long opening lengthened in a direction of the body as taught by Takahashi et al into the device of Taylor et al as modified by Okamoto. The motivation for doing so would have been to make the dimension of the apparatus main body significantly smaller.

***Response to Arguments***

Applicant's arguments filed 7/12/2006 have been fully considered but they are not persuasive. Applicant argues that Taylor et al fails to disclose "a slider to slide with respect to the head caps, and having wipers mounted on a front end portion". Taylor discloses a service station (100) provided with a pallet (slider) disposed underneath a printer head and movable (slides) in a horizontal direction (Figures 1-3; Abstract; Column 4, Lines 39 – 53)

Applicant's arguments with respect to claims 3, 5, and 17-20 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejection regarding Taylor et al (U.S. Pub. 2002/0015070) as modified by Okamoto (U.S. Pat. 6,474,774) as applied to claim 1 above, and further in view of Shimizu et al (U.S. Pub. 2002/0105560).

***Allowable Subject Matter***

Claims 16 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for indication of allowable subject matter of claim 16 is the inclusion of the limitation of a spittoon connecting portion provided with a pair of spitting holes on opposite sides of the slider, wherein the spitting holes of the spittoon connecting portion are aligned with the slits of the wiper connecting portion. It is this limitation found in each of the claims, as it is claimed in the combination, that has not

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been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for indication of allowable subject matter of claim 21 is the inclusion of the limitation of wherein the step part comprises a bent portion to contact with the bent portion of the guide, to smoothly guide the upward and downward moving of the revolving member. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

**Conclusion**


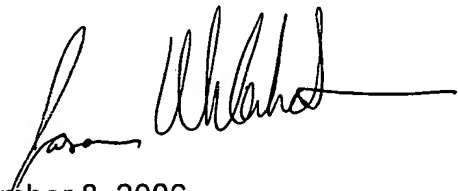
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSU

September 8, 2006



STEPHEN MEIER  
SUPERVISORY PATENT EXAMINER